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IMPROVING THE PRODUCTIVITY OF YOUNG BREEDER CATTLE IN THE PILBARA WA

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ABSTRACT

A project to improve the productivity of cattle breeder herds initiated in 2004 is producing interesting information in the Pilbara and Kimberley of WA. Objectives of this project include determining pastoralists attitude to adopting alternative management practices, documenting animal performance under current management systems and combining pastoralists experience and relevant R&D from other areas of northern Australia to develop, trial and demonstrate alternative best practise management systems for young breeders. A summary of the Pilbara project activities is presented.

INTRODUCTION

Cattle breeding is the common enterprise on all operational pastoral leases in the Pilbara. The profitability of these enterprises is determined by number and value of cattle produced and sold less input costs. Limited information available indicates that, in common with many extensive northern Australia cattle enterprises, female sales as a percentage of total sales is in the range of 30%-35%. This indicates that around one half of the females bred in these enterprises do not leave the property. Similarly long term average reproductive rates (progeny weaned/breeding age females exposed to bulls in the previous season) are around 55% - 70%. While some enterprises are certainly more productive than these figures suggest, there is opportunity to improve productivity by improving the efficiency of reproduction and reducing apparent female losses.

In common with producers across northern Australia, pastoralists in the northern rangelands of WA have identified young breeders (defined as young females in the breeding herd until they conceive their second calf) as a high survival risk group in the breeding herd with often less than optimal reproductive performance. A project, "Industry initiatives to improve young breeder performance in the Pilbara and Kimberley of WA", was developed in co-operation with pastoralists and the MLA Northern Beef Program (NBP) to investigate and address these issues.

METHOD

Pastoralists project management group

An expression of interest for pastoralists to be involved in a group to oversee and contribute to project development and management was advertised in the Department of Agriculture and Food (DAFWA) Northern Pastoral Memo. This resulted in the formation of a group, which included co-operators in the site activities and pastoralists responding to the expression of interest. The group has met on a number of occasions to consider project development and management issues.

Current practises and attitudes

A survey was developed and conducted to provide a background of current practises and pastoralists' attitudes to adopting alternative management practises. A 40% sample of pastoralists was surveyed to represent all herd sizes and major land systems of the Pilbara. Survey information was collected during personal interviews. All participants were advised that they would again be asked to participate in a similar survey towards the end of the project in 2008/09 as part of project evaluation.

Productivity of current systems

Four 'data collection' sites were established in the Pilbara to document the performance of young breeders under current management systems. The management aims at one site was to intentionally mate heifers in the year after weaning as 'yearlings' and at the other sites to mate heifers in the second year after weaning as 'two year olds'.

Groups of heifers were individually identified on each of four properties with liveweight, body condition score (BCS), and reproductive information recorded as convenient for co-operating pastoralists. Individual animal performance of these young breeding females will be monitored until they have the opportunity to conceive their second calf.

RESULTS

Current practises and attitudes

A summary of the results of a survey of 40% (n=22) of Pilbara pastoralists conducted during 2004/05 are included in Table 1.

Table 1: Summary of Pilbara survey results

<i>Herd information:</i>	
Average herd size	6,800
Av. calves marked/weaned 2003/04	2,300
Av. females sold 2003/04	880
Enterprises using botulism vaccine	83%
Enterprises segregating heifers following weaning	78%
Enterprises mustering breeders more than once a year	40%
Enterprises vaccinating bulls for <i>Campylobacter</i>	28%
Enterprises control mating heifers – (bulls actually removed)	5%
<i>Attitude towards changing heifer management:</i>	
	<i>Agree/strongly agree</i>
“Would change if new techniques are demonstrated to be better”.	67%
“Are definitely thinking of changing what we do”	56%

While this information has not yet been subjected to statistical analysis it provides an overview of cattle management practises currently in operation in the Pilbara and an encouraging attitude of pastoralists to change.

Productivity of current systems

Information recorded at these sites during the project to date is summarised in Table 2. It should be noted that the reproduction information is not yet complete for some of these sites as two of the sites, Mandora and Yarraloola, do not intentionally mate heifers until they are 'two year olds'.

Table 2: Summary of the reproduction information collected from the Pilbara ‘data collection’ sites

Site	No. recorded	Yearling Preg rate %	Preg/calf loss %	Disappearance%
Mallina	250	64	16	6
Hamersley	200	60	15	27**
Yarraloola	162	15*		6
Mandora	233	20*		3

* Heifers not intentionally mated until 2005 as nominal 2 year olds

**54 of 200 heifers were not mustered during 2005. Of the ‘missing’ heifers 34% were either empty or early pregnant in October 2004 and 66% were pregnant to calve in the November-April period during the completely failed 2004/05 growing season.

CONCLUSIONS

The survey findings that some 66% of pastoralists; “Would change if new techniques are demonstrated to be better” is encouraging and challenging for the project team.

The information documented at the ‘data collection sites’ has identified a number of management practises likely to improve young breeder productivity. Issues identified for consideration for inclusion in best practise systems to be trialled at different locations in the Pilbara during the next phase of the project include:

- The relatively high conception rate achievable by heifers in the year following weaning in average to better years - ~60% conceptions recorded at two sites.
- The difficulty in controlling bulls in large paddocks – pregnancy rates up to 20% recorded before heifers intentionally mated at two sites.
- The need to run young breeders as a separate group until they wean their first calf to provide the opportunity for preferential management should seasonal conditions deteriorate - as indicated by the possible loss of young pregnant females 66% Vs 34% at one site.

The project is currently in its third phase of trialling and demonstrating best practise management practises on three co-operator properties in the Pilbara. Similar activities are also progressing well in the Kimberley.

This project provides an example of active co-operation between pastoralists and agency staff in WA and across northern Australia in identifying and addressing a production issue. Similar work is being conducted in the Northern Territory

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